Current Listing of Claims

This listing of claims will replace all prior listings of claims in the application.

- 1. (Original) A stable pharmaceutical aqueous solution of cyanocobalamin comprised of cyanocobalamin and water wherein said solution of cyanocobalamin is suitable for intranasal administration, has a viscosity less than about 1000 cPs, and wherein said solution of cyanocobalamin has a bioavailability of cyanocobalamin when administered intranasally of at least about 7% relative to an intramuscular injection of cyanocobalamin with the proviso that the solution contains no mercury or mercury compounds.
- 2. (Original) The aqueous solution of cyanocobalamin of claim 1, wherein the solution is comprised of citric acid, and sodium citrate and water and has a pH of about 4-6.
- 3. (Original) The aqueous solution of claim 2 wherein the pH of the solution is about 5.
- 4. (Original) The aqueous solution of claim 2 further comprised of a humectant.
- 5. (Original) The aqueous solution of claim 4 wherein the humectant is selected from the group consisting of sorbitol, propylene glycol, and glycerin.
- 6. (Original) The aqueous solution of claim 5 wherein the humectant is glycerin.
- 7. (Original) The aqueous solution of claim 6 wherein the glycerin is present at a concentration of about 2.23%.
- 8. (Original) The aqueous solution of claim 2 wherein the solution is further comprised of a preservative.
- 9. (Original) The aqueous solution of claim 8 wherein the preservative is selected from the group consisting of benzyl alcohol, chlorobutanol and benzalkonium chloride.

10. (Original) The aqueous solution of claim 9 wherein the preservative is benzalkonium chloride.

- 11. (Original) The aqueous solution of claim 10 wherein the benzalkonium chloride is present in solution at a concentration of about 0.02%.
- 12. (Original) The aqueous solution of claim 2 wherein cyanocobalamin is present at about concentration 0.5% percent of total weight, citric acid is present at a concentration of about 0.12%, sodium citrate is present at a concentration of about 0.32%.
- 13. (Original) The aqueous solution of claim 12 wherein the pH of the solution.
- 14. (Original) The aqueous solution of claim 12 further comprised of a humectant.
- 15. (Original) The aqueous solution of claim 14 wherein the humectant is selected from the group consisting of sorbitol, propylene glycol, and glycerin.
- 16. (Original) The aqueous solution of claim 15 wherein the humectant is glycerin.
- 17. (Original) The aqueous solution of claim 16 wherein glycerin is present in solution at a concentration of about 2.23%.
- 18. (Original) The aqueous solution of claim 12 further comprised of a preservative.
- 19. (Original) The aqueous solution of claim 18 wherein the preservative is selected from the group consisting of benzyl alcohol, chlorobutanol and benzalkonium chloride.
- 20. (Original) The aqueous solution of claim 19 wherein the preservative is benzalkonium chloride.
- 21. (Original) The aqueous solution of claim 20 wherein the benzalkonium chloride is present in solution at a concentration of about 0.02%.
- 22. (Original) The aqueous solution of claim 1 wherein the solution of cyanocobalamin has at least about 12% bioavailability relative to an intramuscular injection of cyanocobalamin.
- 23. (Original) A stable pharmaceutical aqueous solution of cyanocobalamin comprised of cyanocobalamin at a concentration of about 0.5% of total weight of

solution, citric acid at a concentration of about 0.12%, sodium citrate at a concentration of about 0.32%, glycerin at a concentration of about 2.23%, benzalkonium chloride at concentration of about 0.02% and water wherein said solution of cyanocobalamin is suitable for intranasal administration, has a viscosity less than about 1000 cPs, and wherein said solution of cyanocobalamin has a bioavailability of cyanocobalamin when administered intranasally of at least about 7% relative to an intramuscular injection of cyanocobalamin with the proviso that mercury and mercury containing compounds are not present.

- 24. (Original) A method for administering cyanocobalamin comprised of infusing the nose with an aqueous solution of cyanocobalamin, wherein the solution of cyanocobalamin has a viscosity of less than 1000 cPs, and wherein said solution of cyanocobalamin has a bioavailability of cyanocobalamin of about 7% relative to an intramuscular injection of cyanocobalamin, with the proviso that mercury and mercury containing compounds are not present in the solution.
- 25. (Original) The method of claim 24 wherein the solution of cyanocobalamin is further comprised of citric acid and sodium citrate wherein the solution has a pH of from about 4-6.
- 26. The method of claim 25 wherein the pH of the solution is about 5.
- 27. The method of claim 25 wherein cyanocobalamin is present in solution at a concentration of between 0.5-1% by weight.
- 28. (Original) The method of claim 27 wherein the concentration of cyanocobalamin in solution is about 0.5%.
- 29. (Original) The method of claim 28 wherein the citric acid is present in solution at a concentration of about 0.12%, and the sodium citrate is present in solution at a concentration of about 0.32%, in water.
- 30. (Original) A method for administering cyanocobalamin comprised of infusing the nose with an aqueous solution of cyanocobalamin wherein said aqueous solution of cyanocobalamin is comprised of cyanocobalamin at a concentration of about 0.5% of

total weight of solution, citric acid at a concentration of about 0.12%, sodium citrate at a concentration of about 0.32%, glycerin at a concentration of about 2.23%, benzalkonium chloride at concentration of about 0.02% and water wherein said solution of cyanocobalamin is suitable for intranasal administration, has a viscosity less than about 1000 cPs, and wherein said solution of cyanocobalamin has a bioavailability of cyanocobalamin when administered intranasally of at least about 7% relative to an intramuscular injection of cyanocobalamin, with the proviso that the solution of cyanocobalamin contains no mercury or mercury-containing compounds.

31. (Original) A method for elevating the vitamin B12 levels in the cerebral spinal fluid (CSF) comprising administering intranasally a sufficient amount of a solution of cyanocobalamin so that the average ratio of vitamin B12 in the CSF to that in the blood serum (B12 CSF/B12 Serum x 100) is increased to at least about 1.1, wherein said aqueous solution of cyanocobalamin is comprised of cyanocobalamin at a concentration of about 0.5% of total weight of solution, citric acid at a concentration of about 0.12%, sodium citrate at a concentration of about 0.32%, glycerin at a concentration of about 2.23%, benzalkonium chloride at concentration of about 0.02% and water wherein said solution of cyanocobalamin is suitable for intranasal administration, has a viscosity less than about 1000 cPs, and wherein said solution of cyanocobalamin has a bioavailability of cyanocobalamin when administered intranasally of at least about 7% relative to an intramuscular injection of cyanocobalamin, with the proviso that the cyanocobalamin solution contains no mercury or mercury-containing compounds.